

REMARKS

Applicant respectfully requests reconsideration of this application as amended. Claims 16-22 and 24-30 are currently pending in this application. Claims 23 and 31 are canceled. Claims 16-22 and 24-30 are rejected.

Time Period for Reply

In the Advisory Action mailed May 15, 2008, the Examiner sets the period for reply expiring 2 months from the mailing date of the final rejection.

Applicant submits that the first reply to the Final Office Action is filed on May 5, 2008, as evidenced by the Certificate of Mailing accompanied the reply letter. The first reply is thus within the two month window of the final rejection dated March 6, 2008. According to MPEP 706.07(f), if the first reply was filed within two months of the final rejection, the period for reply expires on: (1) the mailing date of the Advisory Action, or (2) the date set forth in the final rejection, whichever is later. Thus applicant submits that the period for reply expires on June 6, 2008, and this Request for Continued Examination (RCE) is timely.

Election/Restrictions

The Examiner submits claim 31 is drawn to a patentably distinct species and Applicants have constructively elected prosecution of claims 16-22 and 24-30. The Examiner has therefore withdrawn claim 31 from consideration as being directed to a non-elected invention. Applicants affirm election of claims 16-22 and 24-30 and have canceled claim 31.

Claim Rejections - 35 U.S.C. §103(a)

Claims 16, 17, 19, 20, 22, 24-28, and 30 have been rejected under 35 U.S.C. §103(a) as being unpatentable over *Matayabas* (U.S. Publication 2003/0128521) in view of *Pelrine* (U.S. Patent No. 6,809,462, hereinafter "*Pelrine* '462") and *Pelrine* (U.S. Patent No. 6,707,236, hereinafter "*Pelrine* '236").

Claims 18, 21 and 29 have been rejected under 35 U.S.C. §103(a) as being unpatentable over *Matayabas*, *Pelrine* '462 and *Pelrine* '236 and further in view of *Takeuchi* (U.S. Patent Publication No. 2003/0122242, hereinafter "*Takeuchi*").

Response to 35 U.S.C. §103(a) rejections

Applicant submits that *Matayabas* is not prior art to the present application pursuant to 35 U.S.C. 103(c) and MPEP 2146. *Matayabas* and the present application were, at the time the invention was made, both subject to an obligation of assignment to Intel Corporation, the assignee of record for both the present application and *Matayabas*.

Applicant further notes that the present application is a divisional application and claims priority to U.S. Application No. 10/062,255, filed January 31, 2002. Thus, *Matayabas* only qualifies as prior art under § 102(e).

Because all of the claims are rejected under *Matayabas* in combination with another reference; all of the claims are, therefore, patentable. Accordingly, Applicant respectfully requests withdrawal of the rejections under 35 U.S.C. § 103.

In addition, applicant submits that the present claims are patentable in view of *Matayabas*, *Pelrine* '462 and *Pelrine* '236 since these references all fail to disclose at least an element of the present claims, namely a thermal interface material comprising an electroactive polymer covalently bonded to a heat dissipating device.

The present claims disclose an apparatus comprising a heat dissipating device and a thermal interface material wherein the thermal interface material comprises an electroactive polymer covalently bonded to the heat dissipating device. Covalent bonding may result in stronger bonding between atoms and molecules which may result in more effective heat transfer than may be possible using traditional methods that rely on physical contact for heat transfer. Thus the formation of the covalent bonds can reduce the thermal resistance across the interface of the heat dissipating device and the thermal interface material. Covalent bonding of the thermal interface material with the heat dissipating device can be achieved by electrodeposition of an electroactive polymer.

In contrast, *Matayabas* discloses a thermal interface material having low shear modulus for matching mechanical properties between the IC and the heat dissipating device. *Matayabas* discloses a first thermal interface material 7 located between the back

of the IC and a heat spreader; and a second thermal interface material 9 between the heat spreader and a heat sink (Paragraph [0020], lines 17-23). Applicant submits that *Matayabas* is silent with respect to the bonding of the thermal interface material to an external surface (e.g., the back of the IC, the heat spreader, or the heat sink). Further, applicant submits that *Matayabas* fails to disclose that the bonding between the thermal interface material and the heat dissipating device is covalent bonding.

Pelrine '462 and *Pelrine* '236 disclose electroactive polymers that convert between electrical energy and mechanical energy for used in sensors. *Pelrine* '462 and *Pelrine* '236 disclose top and bottom electrodes attached to an electroactive polymer on its top and bottom surface (Col. 5, lines 46-48). Applicant submits that *Pelrine* '462 and *Pelrine* '236 are silent with respect to the bonding of the electroactive polymer to an external surface (e.g., the electrodes). Further, applicant submits that *Pelrine* '462 and *Pelrine* '236 fail to disclose that the bonding between the electroactive polymer and an electrode surface is covalent bonding.

In sum, applicant submits that the present claims are patentable over *Matayabas* in view of *Pelrine* '462 and *Pelrine* '236 since all these prior art references fail to disclose at least an element of the present invention, namely a first thermal interface material comprising an electroactive polymer covalently bonded to a heat dissipating device, which can reduce the thermal resistance across the interface of the heat dissipating device and the thermal interface material.

Other claims are dependent claims, thus should be allowable, at least for the reason stated above with respect to the independent claims.

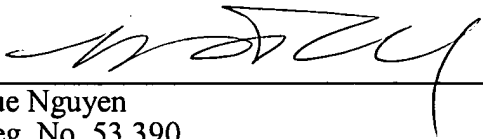
In conclusion, applicants respectfully submit that in view of the amendments and arguments set forth herein, the applicable rejections have been overcome.

----- Pursuant to 37 C.F.R. 1.136(a)(3), applicant(s) hereby request and authorize the U.S. Patent and Trademark Office to (1) treat any concurrent or future reply that requires a petition for extension of time as incorporating a petition for extension of time for the appropriate length of time and (2) charge all required fees, including extension of time fees and fees under 37 C.F.R. 1.16 and 1.17, to Deposit Account No. 02-2666.

Respectfully submitted,

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